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REMARKS

Claims 1-4 and 6-42 are currently pending in the subject application and are presently under consideration. Claim 5 stands cancelled. Favorable reconsideration of the subject patent application is respectfully requested in view of the comments herein.

I. Rejection of Claims 1, 23, 26, 34-35, and 37-42 Under 35 U.S.C. §103(a)

Claims 1, 23, 34-35, and 37-42 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Hays *et al.* (US 6,260,004) in view of Webster, "Wiley Encyclopedia of Electrical and Electronics Engineering", Vol. 13, 1999 (hereinafter referred to as Webster). Withdrawal of this rejection is respectfully requested for at least the following reasons. The cited references, either alone or in combination, fail to teach or suggest each and every limitation set forth in the subject claims.

To reject claims in an application under §103, an examiner must establish a *prima facie* case of obviousness. A *prima facie* case of obviousness is established by a showing of three basic criteria. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second there must be a reasonable expectation of success. *Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.* See MPEP §706.02(j). The teaching or suggestion to make the claimed combination and the reasonable expectation of success must be found in the prior art and not based on the Applicant's disclosure. See *In re Vaack*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991) (emphasis added).

Independent claims 1, 23, 34 and 35

The claimed invention relates to a system for controlling motorized pumps and associated motor drive systems. In particular, independent claims 1, 23, 34 and 35 recite similar limitations, namely selecting a desired operating point within an allowable range of operation about a system setpoint *according to performance characteristics associated with a plurality of components in the system* and automatically providing a control signal to the motor drive *according to the desired operating point*. Hays *et al.* and Webster are silent regarding these claimed features.

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Hays *et al.* relates to a system for diagnosing the operation of a pump system. Hays *et al.* teaches controlling output from a rotating machine by employing a PLC that issues a control setpoint to a valve associated with the rotating machine. However, as conceded by the Examiner in the Office Action (dated August 11, 2005), Hays *et al.* fails to provide a control signal to a motor drive, as recited in the subject claims.

The Examiner attempts to compensate for the deficiencies of Hays *et al.* by providing Webster. Webster generally relates to the operation of motor drives. At the portion of Webster indicated by the Examiner, the reference discloses back-to-back rectifier circuits that provide power to an armature which subsequently powers a drive motor. Webster teaches that the actual speed signal of the drive motor is compared to a desired reference signal speed to produce a speed error signal. This speed error signal is subsequently used in correcting the actual speed signal. Thus, Webster solely compares actual speed to a desired reference speed without additionally considering *performance characteristics associated with a plurality of components in the system*, as in the claimed invention. As a result, Webster can achieve a desired speed but sacrifices durability of other components in the system since it does not take into account their performance characteristics. Therefore, since the desired operating point of the claimed invention is selected within an allowable range of operation about a system setpoint *according to performance characteristics associated with a plurality of components in the system*, Wiley is silent regarding the claimed feature of a control signal to the motor drive *according to the desired operating point*.

Independent claims 37 and 40

Independent claims 37 and 40 recite similar limitations, namely a controller that provides a control signal to a motor drive *according to a setpoint and a diagnostic signal from a diagnostic component according to the diagnosed operating condition in the pump*. Hays *et al.* and Wiley fail to teach or suggest such novel features of the subject claims.

As discussed *supra*, Hays *et al.* is silent with regard to providing a control signal to the motor drive *according to the desired operating point*, and Wiley fails to compensate for the aforementioned deficiencies. Webster teaches comparing actual drive motor speed to a desired reference speed in order to generate an error signal that is subsequently used to correct discrepancies between the actual and reference speeds. However, Webster does not contemplate

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processing diagnostic factors such as flow, pressure, current, noise, vibration, and temperature associated with the motorized system in generating a control signal for the motor drive. Rather, the reference is limited to adjusting motor drive speed according to a desired reference speed without regard to how this change might affect the other components of the system. Consequently, Webster is silent with regard to providing a control signal to a motor drive according to a setpoint *and a diagnostic signal from a diagnostic component according to the diagnosed operating condition in the pump*, as recited in the subject claims.

In view of at least the foregoing, it is readily apparent that Hays *et al.* and Webster fail to teach or suggest all limitations of the subject claims. Accordingly, withdrawal of this rejection with respect to independent claims 1, 23, 34, 35, 37 and 40 (and the claims that depend there from) is respectfully requested.

II. Rejection of Claims 2-4, 6, 10, 11, 13, 17-22, 24, 25, 27, 30-33 and 36 Under 35 U.S.C. §103(a)

Claims 2-4, 6, 10, 11, 13, 17-22, 24, 25, 27, 30-33 and 36 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Hays *et al.* in view of Webster and in further view of Irvin (US 5,742,500). Applicants' representative respectfully requests that this rejection be withdrawn for at least the following reasons. The subject claims depend from independent claims 1, 23 and 35. As previously discussed with respect to these claims, Hays *et al.* and Webster fail to teach or suggest all aspects recited therein. Irvin fails to make up for the shortcomings of Hays *et al.* Irvin relates to control systems and methods for pumping wastewater. Nowhere does the reference disclose the claimed limitations of *providing a control signal to a motor drive according to a desired operating point*. Therefore, this rejection should be withdrawn.

III. Rejection of Claims 7-9, 12, 14-16, 28 and 29 Under 35 U.S.C. §103(a)

Claims 7-9, 12, 14-16, 28 and 29 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Hays *et al.* and Webster, in view of Irvin and further in view of Crane (US 4,584,654). Withdrawal of this rejection is respectfully requested for at least the following reasons. The subject claims depend from independent claims 1 and 23, and as discussed *supra* with respect to these claims, Hays *et al.*, Webster and Irvin fail to disclose all claimed features. Crane fails to compensate for the aforementioned deficiencies. Crane relates to a system that

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monitors a plurality of pumping station components across a network and calculates maximum operating efficiencies for each of the pumping stations. However, nowhere does the reference mention the claimed limitations of *selecting a desired operating point within an allowable range of operation about a system setpoint*, let alone *providing a control signal to a motor drive according to a desired operating point*. Accordingly, applicants' representative requests that this rejection be withdrawn.

CONCLUSION

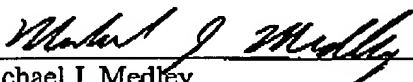
The present application is believed to be in condition for allowance in view of the above comments. A prompt action to such end is earnestly solicited.

In the event any additional fees are due in connection with this document, the Commissioner is authorized to charge those fees to Deposit Account No. 50-1063 [ALBRP220USA].

Should the Examiner believe a telephone interview would be helpful to expedite favorable prosecution, the Examiner is invited to contact applicants' undersigned representative at the telephone number below.

Respectfully submitted,

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